PTGF-04078US

AMENDMENTS TO THE CLAIMS:

Please cancel claim 35 without prejudice or disclaimer, add new claims 36-38, and

2

amend the claims as follows:

1. (Currently Amended) A light emitting apparatus, comprising:

a light source section comprising a solid-state light emitting element;

a power supply member that supplies power to the solid-state light emitting element;

light source section;

a reflection section that is disposed opposite to a light extraction surface of the solid-

state light emitting element light source section to reflect light emitted from the solid-state

light emitting element light source-section;

a heat radiation member that is disposed with a heat radiation width in a back direction

of the solid-state light emitting element light source section; and

an insulating layer disposed between the power supply member and the heat radiation

member,

wherein the heat radiation member comprises a planar member disposed parallel to a

light extraction direction of the light emitting apparatus,

the power supply member, which is separate from said heat radiation member, is

secured to an end face of the planar member,

the solid-state light emitting element light source section is mounted on the end face of

the planar member, and

the planar member is disposed parallel to a longitudinal direction of the power supply

member.

Serial No.

10/521,943

Docket No.

PTGF-04078US

(HIR.135)

2. (Currently Amended) A light emitting apparatus, comprising:

3

a light source section comprising a solid-state light emitting element;

a power supply member that supplies power to the <u>solid-state light emitting element</u>

light source section;

a reflection section that is disposed opposite to a light extraction surface of the solidstate light emitting element light source section to reflect light emitted from the solid-state light emitting element light source section;

a heat radiation member that is disposed with a heat radiation width in a back direction of the solid-state light emitting element light source section;

an insulating layer disposed between the power supply member and the heat radiation member; and

a case in which the reflection section and the radiation member are placed and which externally radiates heat to be transferred from the heat radiation member,

wherein the heat radiation member comprises a planar member disposed parallel to a light extraction direction of the light emitting apparatus,

the power supply member, which is separate from said heat radiation member, is secured to an end face of the planar member,

the <u>solid-state light emitting element</u> <u>light source section</u> is mounted on the end face of the planar member, and

the planar member is disposed parallel to a longitudinal direction of the power supply member.

Serial No. 10/521,943 4 Docket No. PTGF-04078US (HIR.135)

- 3. (Previously Presented) The light emitting apparatus according to claim 2, wherein: the heat radiation member comprises a same material as the case.
- 4. (Currently Amended) The light emitting apparatus according to claim 1, wherein: the solid-state light emitting element light source section is packaged such that the solid-state light emitting element is sealed with a light transmitting material.
- 5. (Currently Amended) The light emitting apparatus according to claim 2, wherein: the <u>solid-state light emitting element light source section</u> is packaged such that the solid-state light emitting element is sealed with a light transmitting material.
- 6. (Currently Amended) The light emitting apparatus according to claim 1, wherein: the light source section comprises the solid-state light emitting element that is flip-chip mounted on an inorganic material board on which a conductive pattern is formed to supply power to the solid-state light emitting element, and

the <u>solid-state light emitting element</u> <u>light source section</u> is sealed with an inorganic seal material that has a thermal expansion coefficient nearly equal to that of the inorganic material board.

- 7. (Previously Presented) The light emitting apparatus according to claim 6, wherein: the inorganic seal material comprises glass.
- 8. (Currently Amended) The light emitting apparatus according to claim 6, wherein:

Serial No. Docket No. 10/521,943

PTGF-04078US

(HIR.135)

the inorganic material board seals the solid state light emitting element while bonding in chemical reaction to the inorganic seal material.

5

- 9. (Previously Presented) The light emitting apparatus according to claim 1, wherein: the solid-state light emitting element is sealed with the inorganic seal material with a refractive index of 1.55 or more.
- 10. (Previously Presented) The light emitting apparatus according to claim 2, wherein: the case comprises a high reflectivity surface to reflect the light.
- (Previously Presented) The light emitting apparatus according to claim 2, wherein: 11. the case comprises a surface that is subjected to a finishing to increase its heat radiation area.
- 12. (Previously Presented) The light emitting apparatus according claim 1, wherein: the heat radiation member comprises a heat radiation plate that comprises a high reflectivity surface to reflect the light.
- 13. (Currently Amended) The light emitting apparatus according to claim 1, wherein: the heat radiation member comprises:

a heat radiation support that comprises a high thermal conductivity material and transfers to the heat radiation member heat generated from the solid-state light emitting element light source section, and

Serial No. Docket No. 10/521,943

(HIR.135)

support.

PTGF-04078US

a heat radiation plate that transfers the heat through the heat radiation

14. (Currently Amended) A light emitting apparatus, comprising:

6

a light source section comprising a solid-state light emitting element;

a power supply member that supplies power to the solid-state light emitting element light-source section;

a reflection section that is disposed opposite to a light extraction surface of the solidstate light emitting element light source section to reflect light emitted from the solid-state <u>light emitting element light source section</u>;

a heat radiation member that is disposed with a heat radiation width in a back direction of the solid-state light emitting element light source section; and

an insulating layer disposed between the power supply member and the heat radiation member,

wherein the power supply member is formed with a width in the back direction of the solid-state light emitting element light-source section,

the heat radiation member comprises a planar member disposed parallel to a light extraction direction of the light emitting apparatus,

the power supply member, which is separate from said heat radiation member, is secured to an end face of the planar member,

the solid-state light emitting element light-source section is mounted on the end face of the planar member, and

the planar member is disposed parallel to a longitudinal direction of the power supply

Serial No. Docket No.

10/521,943

PTGF-04078US

(HIR.135)

member.

15. (Currently Amended) The light emitting apparatus according to claim 1, wherein: the power supply member comprises a metallic thin film and is disposed with a width in the back direction of the solid-state light emitting element light source section and is integrated with the heat radiation member while being insulated from the heat radiation member.

7

- 16. (Previously Presented) The light emitting apparatus according to claim 15, wherein: the power supply member comprises a metallic thin film and is sandwiched through an insulator between a plurality of heat radiation plates to compose the heat radiation member.
- 17. (Previously Presented) The light emitting apparatus according to claim 1, wherein:
 a spectrum light with plurality of region wavelengths is radiated from the solid-state
 light emitting element or from the periphery of the solid-state light emitting element.
- 18. (Previously Presented) The light emitting apparatus according to claim 17, wherein: a phosphor is disposed on the periphery of the solid-state light emitting element.
- 19. (Previously Presented) The light emitting apparatus according to claim 1, wherein: the heat radiation member has the heat radiation width that is three times or more its thickness.

Serial No. 10/521,943 8
Docket No. PTGF-04078US
(HIR.135)

- 20. (Currently Amended) The light emitting apparatus according to claim 1, wherein:
 the light source section including the solid-state light emitting element has a width that is within five times that of the solid-state light emitting element.
- 21. (Previously Presented) The light emitting apparatus according to claim 1, wherein: the heat radiation member comprises a shape that protrudes toward a bottom of the reflection surface.
- 22. (Currently Amended) The light emitting apparatus according to claim 1, wherein: the reflection surface opposite to the solid-state light emitting element light source section comprises a solid angle of 2 π to 3.4 π strad.
- 23. (Currently Amended) The light emitting apparatus according to claim 1, wherein:

 the solid-state light emitting element light source section comprises a light source with a turn-on power of 1W or more.
- 24. (Previously Presented) The light emitting apparatus according to claim 1, wherein: the reflection section comprises a resin material.
- 25. (Currently Amended) The light emitting apparatus according to claim 1, wherein:

 the solid-state light emitting element light source section comprises one of a plurality of solid-state light emitting elements.

Serial No.

10/521,943

PTGF-04078US

Docket No. (HIR.135)

26. (Currently Amended) The light emitting apparatus according to claim 1, wherein: wherein the light emitting apparatus further comprises:

9

- a plurality of solid-state light emitting elements the light source sections, and a plurality of heat radiation members, the reflection sections and the heat radiation members corresponding to the plurality of solid-state light emitting elements the light source sections.
- 27. (Currently Amended) The light emitting apparatus according to claim 1, wherein: the plurality of solid-state light emitting elements the light source sections generate a plurality of emission colors.
- 28. (Currently Amended) The light emitting apparatus according to claim 27, wherein: the plurality of solid-state light emitting elements the light source sections generate emission colors of R, G and B.
- 29. (Currently Amended) A light emitting apparatus, comprising: a light source section comprising a solid-state light emitting element; a power supply member that supplies power to the solid-state light emitting element light source section;
- a reflection section that is disposed opposite to a light extraction surface of the solidstate light emitting element light source section to reflect light emitted from the solid-state light emitting element light source section; and
 - a heat radiation member that is disposed with a heat radiation width in a back direction

Serial No.

10/521,943

Docket No.

PTGF-04078US

(HIR.135)

of the solid-state light emitting element light source section,

wherein the heat radiation member is separated from the power supply member,

the heat radiation member comprises a planar member disposed parallel to a light extraction direction of the light emitting apparatus,

10

the power supply member, which is separate from said heat radiation member, is secured to an end face of the planar member,

the <u>solid-state light emitting element</u> light source section is mounted on the end face of the planar member, and

the planar member is disposed parallel to a longitudinal direction of the power supply member.

30-33. (Canceled)

- 34. (Previously Presented) The light emitting apparatus according to claim 1, wherein the power supply member is insulated from the heat radiation member by the insulation layer.
- 35. (Canceled)
- 36. (New) The light emitting apparatus according to claim 1, wherein said heat radiation member further comprises a second planar member disposed perpendicular to and intersecting said planar member.
- 37. (New) The light emitting apparatus according to claim 1, wherein said planar member

Serial No. Docket No. 10/521,943

11 PTGF-04078US

(HIR.135)

comprises a front surface, a rear surface, and said end face, a surface area of said end face is smaller than a surface area of said front surface and the surface area of said end face is smaller than a surface area of said rear surface.

38. (New) The light emitting apparatus according to claim 1, wherein said planar member has a width and thickness, the thickness corresponding to said end face, and wherein the width of the planar member is larger than a thickness of the end face.